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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,277	12/11/2001	Gunnar Hedin	980.1124US01	3024

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EXAMINER
VY, HUNG T

ART UNIT	PAPER NUMBER
2828	

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/014,277	Applicant(s) HEDIN ET AL.
	Examiner Hung T Vy	Art Unit 2828

-- Th MAILING DATE of this communication appears on th cover she t with the correspond nc addr ss --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

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TECHNOLOGY CENTER 2800

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. In response to the communications dated 12/11/2001, claims 1-50 are pending in this application.

Acknowledges

2. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 05/25/2002 and made of record as Paper No. 3. The references cited on the PTOL 1449 form have been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

4. Claims 1-4, 8, 16 and 18-50 are rejected under 35 U.S.C. § 102 (e) as being anticipated by Vilhemsson et al., U.S. pub. No. 2002/0181519.

Regarding claims 1-3, and 50, Vilhemsson et al. discloses a laser system, comprising: a laser (102) producing a beam of output light; a detector unit (128, 132);

and a fringe-producing optical element disposed in the beam of output light to direct a portion of the beam of output light to the detector unit (128, 132) as a second light beam, an interference pattern being produced in the second light beam by the fringe-producing optical element (See paragraph 0037), a light beam collimator (104) disposed on the beam of output light between the laser (102) and the fringe producing element so that the output light beam at the fringe-producing element is substantially collimated (See paragraph 0037)(See fig. 1).

Regarding claims 4, and 16, Vilhemsson et al. discloses a system, wherein the second light beam includes a first component (122) from a first side of the fringle-producing optical element and a second component (128) from a second side of the fringe-producing optical element, the interference pattern being produces by interference between the first and second components (See fig 1 and paragraph 47).

Regarding claim 8, Vilhemsson et al. discloses a system, further comprising a reflector disposed between fringe-producing element and the detector unit (128 and 132) to reflect the second light beam from the fringe-producing element to the detector unit (See paragraph 12).

Regarding claim 18, Vilhemsson et al. discloses a system, further comprising an output optical fiber and a focusing unit disposed to focus a remaining portion of the output light beam into the optical fiber (118)(See fig 1).

Regarding claims 19-21, Vilhemsson et al. discloses a system, further comprising a control unit (140) coupled to receive light detection information from the detector unit (128 and 132) and to determine an output power of the laser, the control unit further

being coupled to the laser to stabilize the output power of the laser to a desired power level (See fig 1and paragraph 19).

Regarding claims 22-25, Vilhemsson et al. discloses an optical communications system, comprising: an optical communications transmitter unit (1204) having one or more laser units (1204a, 1204n), at least one of the one or more laser units producing a laser output beam and having a wavelength stabilizing unit (140), the wavelength stabilizing unit including a detector unit (128 and 128), a fringe -producing optical element disposed in the laser output beam to direct a portion of the laser output beam to the detector unit (128,132) as a second light beam, the fringe-producing optical element causing an interference pattern in the second light beam (See paragraph 0037), and a control unit coupled to receive detection signals from the detector unit and adapted to generate a laser frequency control signal for controlling wavelength of the at least one of the one or more laser units (1204a, 1204n)(See fig 1and paragraph 19), an optical communications receiver unit (1210); and an optical fiber (1208) communications link coupled to transfer optical communications signals from the optical communications transmitter unit to the optical communications receiver unit (See fig. 12 and fig.1), further comprising a series of fiber amplifiers (1216) disposed on the optical fiber (1208) communications link, the series of fiber amplifiers including at least one fiber amplifier unit (1216)(See fig 12), the optical communications transmission unit (1202) includes at least two laser units (1204a,1204n) operating at different wavelengths and further comprising wavelength division multiplexing elements (1206) to combine light output from the at least two laser units (1204a,1204n) to produce a multiple channel optical

communications signal coupled to the optical fiber (1208) communications link, the optical communications receiver unit (1210) includes wavelength division demultiplexing elements (1212) to separate the multiple channel optical communications signal (1214a, 1214b) into signal components of different wavelengths and further includes channel detectors to detect respective signal components (See fig 12).

With respect to claims 26-49, the methods of stabilizing an operating frequency of an output light beam are considered as product by process steps.

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 8, 16,19-21, and 26-50 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Jenkins et al., U.S. patent No. 5,917,596.

Regarding claims 1-3, and 50, Jenkins et al. discloses a laser system, comprising: a laser (24) producing a beam of output light; a detector unit (34); and a fringe-producing optical element disposed in the beam of output light to direct a portion of the beam of output light to the detector unit (34) as a second light beam, an interference pattern being produced in the second light beam by the fringe-producing optical element (See column 1, line 37-46).

Regarding claims 4, 8, and 16, Jenkins et al. discloses a system, wherein the second light beam includes a first component (28) from a first side of the fringle-producing optical element and a second component (34) from a second side of the fringe-producing optical element, the interference pattern being produces by

interference between the first and second components (See fig 1 and see column 9, line 11-37).

Regarding claims 19-21, Jenkins et al. discloses a system, further comprising a control unit (36) coupled to receive light detection information from the detector unit (34) and to determine an output power of the laser, the control unit further being coupled to the laser to stabilize the output power of the laser to a desired power level (See fig 1, 14 and column 21, line 41-57).

With respect to claims 26-49, the methods of stabilizing an operating frequency of an output light beam are considered as product by process steps.

Claim Rejections - 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth insection 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-7,9-15 and 17 rejected under 35 U.S.C. 103 (a) as being unpatentable over Vilhemsson et al., U.S. pub. No. 2002/0181519 or Jenkins et al., U.S. patent No. 5,917,596.

Regarding claims 5-7, Vilhemsson et al. or Jenkins et al. discloses the claimed invention as respective portion of the interference pattern correspond to regions of

different phase of the interference pattern (see paragraph 62 in Vilhemsson et al.) except for number of detector elements. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have 3 detector elements, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 9-15 and 17, Vilhemsson et al. or Jenkins et al. discloses the claimed invention except for different kind of etalon. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have different kind of etalon, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claims 18, and 22-25 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Jenkins et al., U.S. Patent No. 5,917,596 in view of Wu et al., U.S. Patent No. 6,433,921.

Regarding claims 18, and 22-25, Jenkins et al. discloses all limitation of system expect Jenkins et al. does not disclose the transmitter, receiver, optical fiber, division multiplexing elements and demulitplexing elements. However, Wu et al. discloses the transmitter (12), receiver (14) (See fig 1), optical fiber (70), division multiplexing elements (68) and demulitplexing elements (See Fig 7) and amplifier unit (86)(See fig 10).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Jenkins et al. to have the transmitter, receiver, optical fiber, division multiplexing elements and demulitplexing elements as taught by Wu et al. because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

Citation of Pertinent References

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Pub to Wihelmsson et al. discloses Apparatus and Method for Controlling the Operating Wavelength Wavelength of a Laser, U.S. Pub No. No 2002/0181519

The patent to Myrick discloses Optical Computational System, U.S. Patent No. 6,529,276.

The patent to Shekel et al. discloses Intergrated Optics Beam Deflectors and System, U.S. Patent No. 6,556,731.

Conclusion

8. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (703) 605-0759. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul IP can be reached on (703) 308-3098. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Hung T. Vy
Art Unit 2828

April 30, 2003